

Basic Features of Quadratic Functions

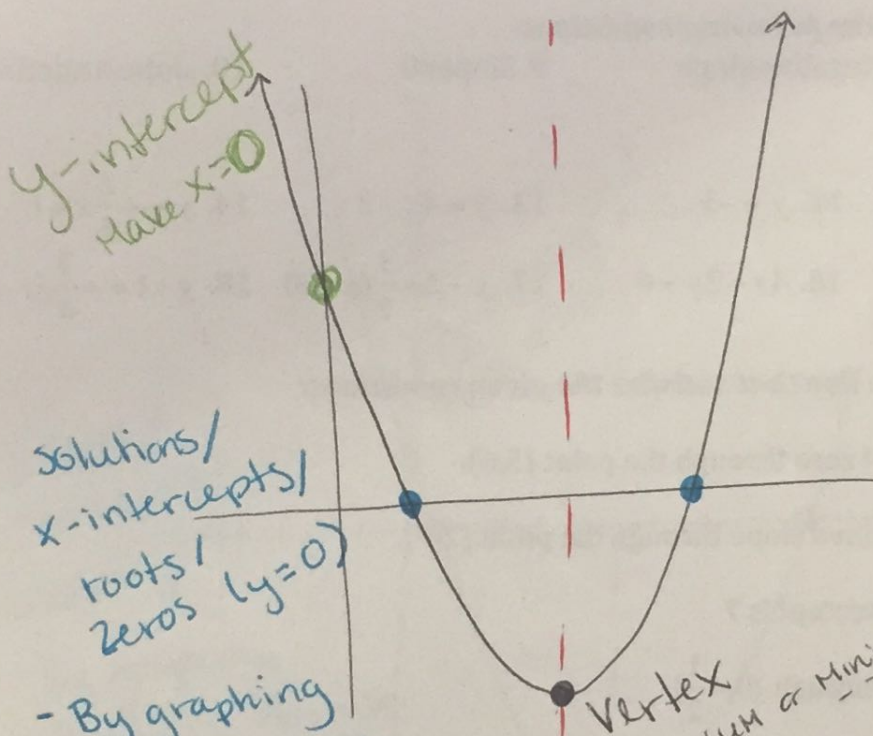
$$f(x) = a(x-h)^2 + k$$

Vertex Form

$$f(x) = ax^2 + bx + c$$

Standard Form

- Graph shape is called a parabola



y-intercept
have $x=0$

Solutions/
x-intercepts/
roots/
zeros ($y=0$)

- By graphing

- Quadratic Formula
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- Factoring: Zero
Product
Property

Vertex

(Maximum or Minimum)

axis of symmetry
→ go through vertex
 $x = x\text{-value of vertex}$

From vertex form: (h, k)

From standard form:

$x = \frac{-b}{2a}$ and plug back in

On Calc

2nd Trace

3: Min

4: Max